

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 5-7 and ADD new claims 8-9 in accordance with the following:

1. (Original) An apparatus to feed a paper in an image forming apparatus comprising:
 - a pick-up roller rotated by a pick-up motor, to pick up a paper;
 - a media sensor having a light emitting unit positioned on a paper transferring path, to emit light onto a paper moved forward by the pick-up roller;
 - at least one light receiving unit installed at a predetermined angle with respect to the paper, to receive light reflected from the paper, the paper being illuminated by the light from the light emitting unit and moved forward along the paper transferring path;
 - a pick-up switch unit to output a paper entrance determination signal by comparing an output signal from the light receiving unit with a predetermined reference signal; and
 - a controller to determine whether a paper is provided on a basis of the paper entrance determination signal input from the pick-up switch unit, and to determine a paper type using an output signal from the light receiving unit.
2. (Original) The apparatus according to claim 1, further comprising an A/D (Analog/Digital) converter to convert the output signal from the light receiving unit into a digital signal and applying the same to the controller.
3. (Original) The apparatus according to claim 1, wherein the light receiving unit comprises two phototransistors installed at different angles with respect to a paper provided to the paper transferring path.
4. (Original) The apparatus according to claim 3, wherein the controller determines a paper type according to a ratio of output values from the two phototransistors.

5. (Currently Amended) A method of feeding a paper in an image forming apparatus, ~~that includes: a pick-up roller rotated by a pick-up motor, to pick up a paper; a driving roller and a feeding roller rotated respectively by a line feeding motor, to transfer the paper; and a media sensor having a light emitting unit to emit light onto the paper, a light receiving unit to receive the light reflected from the paper, and a pick-up switch unit to output a paper entrance determination signal by comparing the output signal from the light receiving unit with a predetermined reference signal set in advance, the method comprising:~~

if a printing command is received, driving the a pick-up motor, and simultaneously turning ~~on the a~~ light emitting unit ~~of the media sensor~~;

if ~~the a~~ light receiving unit is turned on and a paper entrance determination signal is output from ~~the a~~ pick-up switching part, determining that ~~the~~ paper is provided and turning off the light emitting unit;

if ~~the a~~ pick-up roller is rotated and a paper is transferred up to ~~the a~~ driving roller, aligning the paper ~~by driving the line feeding motor backward~~;

if the paper is aligned, detecting a paper type ~~by turning on the media sensor~~; and

if detection of the paper type is completed, feeding a paper ~~by rotating the feeding roller forward~~, and performing printing depending on the detected paper type.

6. (Currently Amended) The method according to claim 5, wherein the ~~light receiving unit detecting of the paper type~~ comprises receiving light from ~~two phototransistors installed at different angles with respect to the paper.~~

7. (Currently Amended) The method according to claim 5, wherein the detecting of the paper type includes sequentially turning on the light emitting unit, computing a ratio of output values ~~provided~~ received from the two transistors, and determining a paper type among the set paper types depending on the ratio of the output values.

8. (New) An apparatus to feed a paper in an image forming apparatus comprising:
a media sensor comprising;

at least one light receiving unit to receive light reflected off of a piece of paper;
and

a controller to determine whether the piece of paper is provided on a basis of a first signal from the at least one light receiving unit, and to determine a paper type using a second signal from the at least one light receiving unit.

9. (New) The apparatus according to claim 8, further comprising an analog/digital converter to convert at least one of the first or second signals into a digital signal and apply the same to the controller.